

(19) World Intellectual Property  
Organization  
International Bureau



(43) International Publication Date  
18 August 2005 (18.08.2005)

PCT

(10) International Publication Number  
**WO 2005/075682 A1**

(51) International Patent Classification<sup>7</sup>: **C12Q 1/68**

(21) International Application Number:  
PCT/KR2004/001939

(22) International Filing Date: 2 August 2004 (02.08.2004)

(25) Filing Language: Korean

(26) Publication Language: English

(30) Priority Data:  
10-2004-0007237 4 February 2004 (04.02.2004) KR

(71) Applicants and

(72) Inventors: **PARK, Hee-Kyung** [KR/KR]; 60-1 Seongbuk2-dong, Seongbuk-gu, Seoul 136-821 (KR). **KIM, Cheol-Min** [KR/KR]; 126-2101 LG Metro City, 176-30 Yongho-dong, Nam-gu, Busan-city 608-090 (KR).

(72) Inventor; and

(75) Inventor/Applicant (for US only): **JANG, Hyun-Jung** [KR/KR]; 105-1402 Samsung Apt., 395, Munhyun3-dong, Nam-gu, Busan-city 608-040 (KR).

(74) Agent: **LEE, Young-Pil**; The Cheonghwa Bldg., 1571-18 Seocho-dong, Seocho-gu, Seoul 137-874 (KR).

(81) Designated States (unless otherwise indicated, for every kind of national protection available): AE, AG, AL, AM, AT, AU, AZ, BA, BB, BG, BR, BW, BY, BZ, CA, CH, CN, CO, CR, CU, CZ, DE, DK, DM, DZ, EC, EE, EG, ES, FI, GB, GD, GE, GH, GM, HR, HU, ID, IL, IN, IS, JP, KE, KG, KP, KZ, LC, LK, LR, LS, LT, LU, LV, MA, MD, MG, MK, MN, MW, MX, MZ, NA, NI, NO, NZ, OM, PG, PH, PL, PT, RO, RU, SC, SD, SE, SG, SK, SL, SY, TJ, TM, TN, TR, TT, TZ, UA, UG, US, UZ, VC, VN, YU, ZA, ZM, ZW.

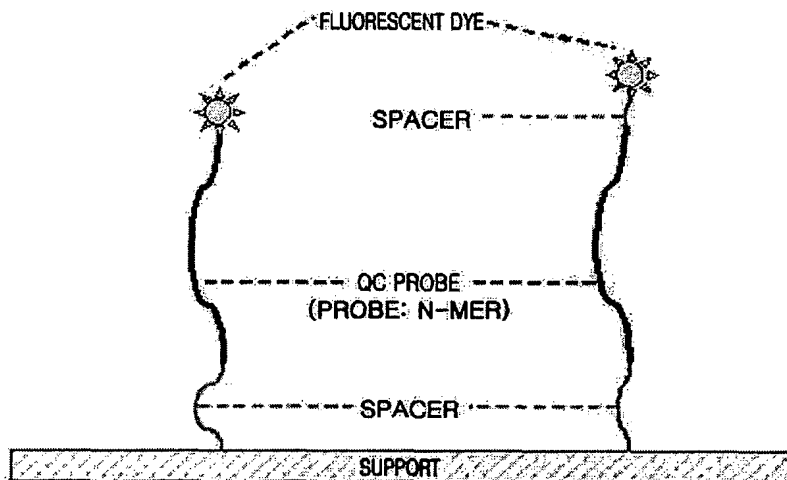
(84) Designated States (unless otherwise indicated, for every kind of regional protection available): ARIPO (BW, GH, GM, KE, LS, MW, MZ, NA, SD, SL, SZ, TZ, UG, ZM, ZW), Eurasian (AM, AZ, BY, KG, KZ, MD, RU, TJ, TM), European (AT, BE, BG, CH, CY, CZ, DE, DK, EE, ES, FI, FR, GB, GR, HU, IE, IT, LU, MC, NL, PL, PT, RO, SE, SI, SK, TR), OAPI (BF, BJ, CF, CG, CI, CM, GA, GN, GQ, GW, ML, MR, NE, SN, TD, TG).

**Published:**

- with international search report
- with sequence listing part of description published separately in electronic form and available upon request from the International Bureau

For two-letter codes and other abbreviations, refer to the "Guidance Notes on Codes and Abbreviations" appearing at the beginning of each regular issue of the PCT Gazette.

(54) Title: MICROARRAY COMPRISING QC PROBES AND METHOD FOR FABRICATING THE SAME



(57) Abstract: A quality control (QC) probe for inspecting a quality of a microarray, a method for fabricating a microarray in which the QC probe and a target probe are immobilized on a support, and a method for inspecting the quality of a microarray using the QC probe are provided. More particularly, a method for fabricating a microarray by mixing a QC probe labeled with a fluorescent material and a target probe at a certain ratio and immobilizing the mixture on a support of a microarray, a method for inspecting the quality of a microarray including identifying the immobilization state of probes by scanning a fluorescent signal produced by a fluorescent material before or after a hybridization reaction of a target probe and a target product using the prepared microarray, and a QC probe used for

inspecting the quality of a microarray are provided. The QC probe can be used to identify whether or not each probe is immobilized on a support of a microarray, shape and concentration of the immobilized probe, and a bonding reaction or a hybridization reaction of a target probe and a target product. When using the microarray including the QC probe in a hybridization reaction, a reliability of experimental procedures and result analysis using the microarray can be improved. In addition, the use of a target probe having a QC function can simplify the process of fabricating a microarray.

WO 2005/075682 A1